Horace Donisthorpe. The discovery of this second species of *Prodiscothyrea* indicates that the members of the genus, like the species of *Discothyrea*, belong to a widely and discontinuously distributed and very ancient, hypogæic relict fauna, all the components of which are very rare and evidently on the verge of extinction.

ANTHOCYANIN IN *PTEROCOMMA SMITHIE* (Mon.).

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Pterocomma smithiæ (Mon.), an aphid, found on the stems and twigs of willow trees, contains a red pigment which seems to be localized in the cytoplasm of the fat cells.

The pigment is soluble in water and alcohol, but especially in hydrochloric acid. A large number of aphids were rubbed up in a mortar with a few cubic centimeters of $^1/_{10}$ molecular HCl. This solution was then poured into a test tube and placed in a water bath for ten or fifteen minutes to facilitate the extraction of the pigment. After this, the liquid which became an intense dark red was filtered. If a few drops of 26 per cent. ammonia are now added the solution becomes blue or bluish green. On adding more and more of the alkali, a light green color appears, gradually passing to yellow. The reaction may be reversed at any point by adding HCl. If, after obtaining the yellow color with the alkali, one adds enough $^1/_{10}$ molecular HCl to the liquid the yellow will gradually pass back to the light green and bluish green.

These color reactions very strongly suggest the anthocyanins found in plants. Anthocyanins form red pigments with acids which turn blue on the addition of ammonia. I suggest the following possible series of reactions which might account for the red pigment in the aphids. The aphids suck up the hydroxyflavones from the plants[1] together with the sap. The hydroxyflavone is then reduced to anthocyanin in the body of the insect and later converted into the red pigment. The red pigment is deposited in the fat cells and may function as a respiratory pigment although this is not at all likely.

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[1] Tests showed anthocyanin to be absent in twigs of willow.